BALD EAGLE MONITORING GUIDELINES

Prepared For

United States Fish and Wildlife Service

September 2006

(Revision of Bald Eagle Monitoring Guidelines Issued September 2005)

PREFACE

The U.S. Fish and Wildlife Service's (Service) Florida Ecological Services Field Offices in Jacksonville, Panama City and Vero Beach have been receiving and reviewing monitoring reports for more than five years as prescribed by our Bald Eagle Monitoring Guidelines (Guidelines) (pre-2002 draft, 2002, 2005) for applicants proposing construction activities occurring within 1500 feet of an active bald eagle nest during the nesting season. The cumulative result of these monitoring reports is that the Service has not observed from these data any indicators of disturbance, abnormal or atypical behavior, or nest abandonment that would have caused the applicant and/or the Service to halt construction activities during the nesting season. Consequently, the Service and the Florida Fish and Wildlife Conservation Commission (FWC) have jointly concluded that monitoring of construction and nesting activities is no longer warranted for projects involving construction beyond 660 feet of an active nest during nesting season.

Additionally, the Service has published the June 5, 2006 *Clearance to Proceed with Construction Activity Adjacent to Bald Eagle Nests* (http://fws.gov.northflorida/BaldEagles) (Clearance Letter) based on the Draft National Bald Eagle Management Guidelines to accompany the Bald and Golden Eagle Protection Act (BGEPA) once delisting of the bald eagle is finalized. As such, it is necessary to make the appropriate revisions from the September 2005 Monitoring Guidelines to reflect consistence with these policy and regulatory changes.

These revised Guidelines accordingly are now applicable only when construction activities occurring within 660 feet of an active bald eagle nest during the nesting season. Monitoring generally is not recommended for projects when construction activities occur beyond 660 feet of an active nest, as those data are no longer required. However, additional criteria for monitoring may be indicated in any Biological Opinion that references these Guidelines. A number of Federal and State laws and/or regulations prohibit, cumulatively, such acts as harassing, harming, disturbing, molesting, pursuing, etc. bald eagles, or destroying their nests. The purpose of these Guidelines is to provide a scientific standard for documenting and evaluating bald eagle response to human development activities. Such activities may lead to an alteration of otherwise normal nesting behavior and ultimately to nest abandonment and/or death of eggs or eaglets. These guidelines are advisory in nature.

The FWC maintains a database of all known bald eagle territories in Florida (http://wld.fwc.state.fl.us/eagle/eaglenests/), which should be consulted to determine the specific nest number and nesting history. It should be noted that: 1) the nest locations (latitude/longitude coordinates) in this database are approximate and should not be relied upon to establish accurate distances from proposed construction activities, 2) some territories have alternate nests that may not be reported in the database, and 3) many bald eagle territories are unknown and/or may support new active nests that have been established in recent years. Any bald eagle nest discrepancies or new nest locations should be reported to the FWC bald eagle database coordinator at 352-955-2230.

The development of this document is a collaborative effort by Federal, State and private biologists who have extensive experience in the research and management of bald eagles in the Southeastern United States. J. Steve Godley[1] prepared the initial draft and all attachments, while Tom H. Logan[2, 3] served as editor and coordinator of technical and editorial reviews of subsequent drafts. Candace Martino[4] provided invaluable coordination to facilitate necessary input from each of the authors, and Stephen A. Nesbitt[2], John H. White[2], Dan Sullivan[2], Al Begazo[4], and Tony Steffer[5] provided technical and editorial comments that were critical to the completion and technical quality of these Guidelines.

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BALD EAGLE MONITORING GUIDELINES

A. Introduction

The Service and FWC recommend biological monitoring of the nesting territory if new development, specifically residential, commercial, and/or industrial construction, is proposed to occur within 660 feet of the nest tree during the nesting season (October 1 - May 15, Service 1987).

These Guidelines have been developed to provide agency personnel and others a scientific standard for gathering data that may be used to evaluate eagle responses to human development activities, which may indicate an alteration of otherwise normal nesting behavior. The Guidelines 1) describe normal nesting behavior of bald eagles, 2) identify specific behavioral responses of adult and young eagles that may warrant cessation of development activities, 3) propose the type and level of monitoring necessary to detect a change in normal behavior, and 4) develop a procedure for reporting the observations to the USFWS/FWC, which may be used for halting or modifying construction activities, if necessary.

Buehler (2000) and references cited therein provide excellent summaries of the biology and nesting behavior of bald eagles. Nesting behavior and response of individual eagle pairs to human activities may vary, but nesting chronology and otherwise normal behavior are relatively fixed and predictable. The probability that a pair of bald eagles will abandon their nest increases with the intensity and proximity of development activities to their nest, and decreases with the time and energy the adult eagles have invested in the eggs or young and to what extent the adult birds may habituate to human activities. This is based upon the ecological parental investment theory (e.g., Trivers 1972, Wilson 1975, Dawkins 1977) and practical experience gained from observing bald eagle/human interactions over the past two decades in Florida (e.g., Wood 1992, Nesbitt et al. 1993, Wood and Collopy 1995, Millsap et al. 2004). Accordingly, the need for appropriate monitoring and concern for disturbance is highest prior to egg laying, the closer and more intense development activities occur to the nest tree, and for nesting territories in more rural environments.

All infrastructure development and exterior building construction within 660 feet of the nest tree should, as a general rule, be completed during the non-nesting season. Infrastructure construction includes all land and lot clearing; fill work; construction of roads, drainage, sewer and storm water facilities; and installation of water, electricity and other utilities. However, it often is not possible to complete construction of infrastructure, individual residential homes or commercial developments during the non-nesting season. These guidelines are applicable to those circumstances.

B. Monitoring Requirements

Personnel formally educated in the biological sciences, well experienced in recognizing specific patterns and changes of eagle behavior and capable of recording those observations in a scientific manner must conduct all monitoring. Continuity of monitoring, data collection and

reporting is best maintained if one person (Monitor) conducts all monitoring for a specific project site. Close coordination is essential if more than one monitor is required. Monitoring should be conducted from a location that provides a clear vantage point of the nest and the surroundings (including construction activities), yet far enough from the nest (e.g., > 660 feet where possible) to not cause disturbance to the eagles. Monitoring from closer locations could cause disturbance and should be avoided. Conducting the monitoring from inside a parked vehicle or from a portable blind can further minimize observer disturbance. Monitoring should be conducted using both binoculars and a high-powered spotting scope during periods when construction is occurring during the nesting season (generally October 1 – May 15) and within 660 feet of the nest tree.

The purpose of monitoring is to detect any abnormal behavior of the adult eagles or their chicks that may be elicited in response to development activities occurring within 660 feet of the nest tree and that potentially could result in abandonment of the nest (and/or territory), or death of the eggs or eaglets. **In cases where the developer is relying upon conditions/recommendations specified in a Biological Opinion or other agency document, procedures should be established between the monitor and the developer/home builder for suspension of work and immediate notification to the Service and FWC upon observation of such abnormal behavior of nesting eagles (see Section D for details)**. Once an applicant agrees to monitor in accordance with these Guidelines, they are held to *all* requirements of these Guidelines.

Monitoring should begin no later than October 1 and continue through fledging, if construction is anticipated or planned to occur within 660 feet of the nest tree during the nesting season. Fledging is considered to have occurred at that age when young of the year have achieved the ability to sustain flight (see Section C.7 for details).

- **Initial Monitoring to Confirm Occupancy of the Nesting Territory:** Bald eagles are considered to have returned to the territory when one or both members of the pair appears, flies, perches, roosts, exhibits courtship, carries nest material, begins repair of the existing nest and/or begins construction of a new nest on the territory. The territory is considered to be the area within a 660-foot radius of the nest tree; although, some pairs may construct a new, alternate nest at farther distances. All eagle nests are protected unless declared "lost" or "abandoned" in accordance with provisions of the *Habitat Management Guidelines for the Bald Eagle in the Southeast Region* (Service 1987). All alternate nests should be monitored until such time as the eagles have been observed incubating in one of the nests on the territory. Monitoring can then cease for the alternate nests in which nesting does not occur. However, if the nest in which nesting begins is lost prior to February 1, monitoring of all alternate nests should be re-initiated to determine if re-nesting occurs on the territory.

  Initial monitoring of eagles to determine territory occupancy shall be conducted a minimum of one day per week and consist of in sequence: 1) nest tree observations for a minimum of two hours starting ½ hour before sunrise, followed by 2) nest tree inspection for indirect evidence of eagle use if no adults are observed. *Never* approach a nest tree if adult eagles are observed on the territory on that day. The following shall constitute positive indirect evidence that bald eagles have returned to the nesting territory: 1) fresh moss or green tree branches placed or interwoven into the nest top, or 2) fresh droppings

("whitewash") on vegetation or the ground beneath the nest tree. Such droppings typically are deposited below the nest cup or favored perch branches. Do not confuse white, dried pine resin with eagle droppings: droppings rub off upon touch, whereas resin does not. Direct or indirect evidence of territory occupancy by adult eagles triggers the requirement for more intensive monitoring (see Monitoring During Early Phases of the Nesting Cycle, below). The results of both direct bald eagle observations and nest tree inspections must be recorded each week on the Bald Eagle Monitoring Data Sheet (Figure 1). A Confirmation of Nest Territory Occupancy Report describing the basis for the determination shall be submitted to the Service and the FWC (see Section D for reporting details) within one week of finding positive evidence of bald eagle nest territory occupancy. **This report also shall include a specific schedule of dates planned for monitoring during the next month.** Each subsequent monthly report submitted to the Service and FWC shall contain a schedule of monitoring dates for the upcoming month, with the understanding that any scheduling changes shall be reported to the agencies by email as soon as possible.

- **Monitoring During Early Phases of the Nesting Cycle:** The normal cycle of bald eagle nesting behavior is described below. Once a territory is determined to be occupied, it should be considered active, and nesting eagles should, at that time, be monitored a minimum of three days each week and four hours each day (beginning at 1/2 hour before sunrise) from onset of nesting behavior through the fourth week post-hatching and care of eaglets. **Monitoring is *not* required on days when no infrastructure development or exterior building construction occurs within 660 feet of the nest tree.** Monitoring should be scheduled to occur on the days that are representative of all major phases of construction activity at times when these construction activities will occur.

- **Monitoring During Last Phase of the Nesting Cycle:** Monitoring frequency for construction activities may be reduced to one day each week (four hours beginning 1/2 hour before sunrise) beginning five weeks post-hatching and continue until fledging occurs or May 15, whichever occurs first. However, this once a week monitoring event should occur on days that are representative of all major phases of construction activity at times when these construction activities will occur.

- **Special Circumstances:** Additional monitoring may be appropriate should special circumstances arise as described in Section C.6. The monitoring and construction plans for any nesting territory may be re-evaluated for modifications during any year. Weekly nest territory monitoring may cease after February 1 of that nesting season if: 1) no adult bald eagles are observed on the territory or 2) if an eagle was observed on the territory, but nesting was not attempted, or a nest attempt was documented to have failed and re-nesting was not attempted. Additionally, monitoring may cease if great horned owls (*Bubo virginianus*) are documented to have occupied the nest and there are no alternate nest sites available to the eagles within 660 feet of the project, and no evidence of eagles constructing a new nest within 660 feet of the project. Evidence must be clear from information recorded in the Bald Eagle Monitoring Data Sheets and/or provision of additional data, that circumstances exist that would warrant any modification of planned monitoring (i.e. increase, decrease or termination of monitoring).

- General Comments: Residential homes are the most common form of development that requires monitoring. Single-family homes typically may require a minimum of 5 months for completion of construction, and all major stages of construction (described below), except truss placement, occur over multiple days. Monitoring should be timed to include truss placement. In all cases, the monitor should use a site plan of the project to prepare weekly maps on which to document the specific construction activities that are occurring within 660 feet of the nest tree. Recorded construction activities should include, but not be limited to, the stage of construction of each home (i.e., fill placement, slab pouring, sidewall construction, truss placement, roofing, external finish work, internal finish work and landscaping). All observations of construction and eagle behavior *must* be recorded using the attached data sheet (Figure 1).

The following nest cycle activities must be documented and monitored for comparison with normal nesting behavior (see Section C for details) and for detecting and evaluating behavior that may be indicative of disturbance and/or pending risk:

1. Temporal patterns of nest attendance by the adults.
2. Observations of courtship, mating and nest building/maintenance.
3. Incubation and brooding behavior.
4. Feeding, growth and care of the eaglet(s).
5. Flight patterns to and from the nest tree.
6. Fledging of the eaglet(s).

All behavioral data and construction activities should be recorded within 15 minute intervals to facilitate analysis as a basis for detecting and evaluating behavior which may indicate pending risk. Figure 2 summarizes the typical nesting chronology of bald eagles in Florida. Please note that egg laying typically occurs during mid-December in Florida, but may vary by year, pair and latitude, and can extend from October through April, with most late nesters likely representing second breeding attempts (Buehler 2000). Figure 3 provides a typical pattern of nest attendance and phenology of a pair of eagles in Sarasota County, Florida, monitored over a three-year period during one 4-hour observation period each week from October through May.

Nesting behavior which may be interpreted as abnormal, a response to construction activities and/or indicative of pending risk may include, but not be limited to: 1) adults raising or standing up over the nest, 2) increased time spent away from the nest by the adults that is not associated with normal nesting phenology, 3) changes in flight patterns or perch tree use, 4) distress calls, 5) flushing behavior from the nest tree or perch trees, 6) changes in the feeding schedule of the eaglet(s) and 7) premature fledging of the eaglet(s). Descriptions of specific behaviors that would warrant concern and may be indicative of pending risk are described below. Such behaviors occasionally result from factors other than human disturbance, such as death of an adult, sterility or immaturity (i.e., one member of the pair not in definitive plumage), entrance of a foreign adult eagle or great horned owls into the territory, inadequate food supply for the number of eaglets present, etc. Therefore, it is very important that observations of any abnormal behavior be reported immediately to assure proper interpretation and appropriate courses of action (see Section D for details).

C. Normal Nesting Behavior and Indicators of Disturbance

1. Adult Behavior at the Nest

Eagles often assume an alert posture in response to a disturbance event. This behavior also may be accompanied by distress calls and ultimately result in flushing behavior (Fraser et al. 1985, Buehler et al. 1991, McGerigal et al. 1991). Incubating adults may react to a disturbance by rising from their incubation posture and standing over their eggs. They also may step off the eggs and stand on the side of the nest. They may or may not vocalize in conjunction with this behavior. Such standing behavior may be seen prior to flying and as an indication that the bird may flush from the nest in response to a disturbance. The bird also may settle back down into incubation posture without flying, once the disturbance has passed or the bird has decided the disturbance is not a sufficient threat to warrant flushing from the nest. This behavior (whether the adult flushes or not) does indicate that the disturbance is great enough to interfere with normal behavior and is of concern. This posture could be confused with stretching or egg turning which are normal parts of incubation behavior. It will be the responsibility of the monitoring biologist to accurately judge whether a bird is exhibiting normal behavior or is reacting to disturbance.

2. Patterns of Nest Attendance

Figure 3 provides a representative example of normal baseline nest attendance by at least one adult eagle during the nesting season. Please note that attendance may be sporadic early in the nesting season, but increases dramatically immediately prior to egg-laying. At least one adult is present almost 100% of the time during the 35-day incubation period and the first 2-3 weeks post-hatching (Fraser 1981, Wallin 1982). Females average about 1/5 larger in size than males, and the sexes are distinguishable when the pair is together. The female does the majority of the incubation and early nestling attendance, although the male participates in both activities. One adult (usually female) broods constantly during inclement (i.e., cool or rainy) weather, and will shade the young to avoid heat stress until a chick(s) is approximately 4 weeks of age (Jenkins 1989, Herrick 1924). Nest attendance declines sharply after 5-6 weeks, and the adults often roost and loaf away from the nest.

Nest attendance would be considered abnormal if: 1) at least one adult is not present during two consecutive, 4-hour (minimum) monitoring days prior to egg laying or 2) both adults are absent for more than two consecutive 15-minute periods during incubation, early brooding or inclement weather prior to 4 weeks post-hatch.

3. Flight Patterns Between Nest and Feeding Areas

Florida eagles generally nest in proximity to water, and flight paths to and from the nest often are relatively direct to their feeding areas. Flight information should include recording the direction of each flight to and from the nest in the eight cardinal directions. Simple chi-square or other non-parametric statistics can be used to test if flight patterns are random, directed towards foraging areas or away from on-going construction.

4. Vocalizations on the Nesting Territory

Verner and Lehman (1982) describe three distinctive calls of nesting birds that are typical responses to human approaches: 1) a "chatter call" described as consisting of 3-4 introductory notes separated by short gasps of silence (<1s) followed by a rapid sequence of descending notes, usually 6-9 notes in sequence (*kwit kwit kwit kwit kee-kee-kee-kee-kee*), 2) a "peal" consisting of a high-pitched, prolonged, gull-like cry, often repeated 3-5 times and 3) a "wails" call that is seldom given (Buehler 2000). Variants of these calls may also be given in response to an intruding adult eagle or other raptors, such as great horned owls, and the chatter call also is often given upon approach to the nest tree by a member of the pair, independent of human disturbance. Any distress call must be investigated to determine cause, and **any construction or associated human activity that may be responsible for the distress call, must be halted or modified immediately**.

5. Flushing Behavior

Adult eagles may flush from the nest tree, particularly if humans are on foot (Fraser et al. 1985, Buehler et al. 1991, Grubb and King 1991, McGarigal et al. 1991, Grubb et al. 1992). Risk increases with the duration and frequency of events. The sensitivity of eagles to human disturbance varies between individuals and across populations, as measured by experimental flushing studies (e.g., Stalmaster and Newman 1978, Knight and Knight 1984, Fraser et al. 1985, Buehler et al. 1991, McGarigal et al. 1991). Unfortunately, no similar studies have been conducted in Florida. The response of individual eagles may range from temporary agitation (alert posture) to flushing from the nest or perch tree, to permanent displacement. Humans in vehicles generally elicit a much lower response than those on foot. Additionally, eagles that nest in proximity to existing human activities may habituate and be more tolerant to forms of human activity than they may have previously experienced.

Flushing behavior is more typically in response to human approach to the nest on foot; therefore, it is imperative that the monitor attempt to stop all such approaches. **Any construction activities that appear to have caused flushing should be halted immediately**.

6. Feeding Schedule of the Eaglet(s)

Although both sexes secure food and feed the young, the male provides most of the food in the first two weeks, while the female tends the young in the nest (Wallen 1982, Gerrard and Bortolotti 1988). The female often delivers as much prey as the male after 3-4 weeks. Adults typically bring the food to the nest and tear off small pieces to feed the young. Eaglets are able to tear off food and feed themselves at approximately 6 weeks of age, although the adults often dismember larger prey (Palmer et al. 1988). Adults typically deliver food 2-8 times per day (mean = 4), and the early morning period accounts for proportionately more food deliveries (Herrick 1924). Food delivery rates also typically decrease as eaglets mature and or eaglet numbers decline with normal attrition. Therefore, deliveries may not be observed during some monitoring periods for older broods. The nutritional requirements of eaglets have not been reported in the literature (Buehler 2000), but free ranging adult bald eagles in Washington at 5ºC were reported to consume about 77.3 g/kg per day (425.5 kJ/kg per day), slightly less than 10% of their body weight per day (Stalmaster and Gessaman 1984). Nestlings may use food that accumulates at the nest for more than one day, unless fresh food is provided (Herrick 1993). Both adults and chicks are capable of storing food in their crop, then digesting the food over

time. **Additional monitoring may be appropriate should a documented, abnormal reduction in feeding rates be observed; if accompanied by other behavioral indicators of stress (i.e., flushing and/or distress calls), the monitor should suspend construction activities and report these observations** (see Section D).

Mean brood size for successful nests in Florida bald eagles is 1.55 young per brood, with 3 young not uncommon (Nesbitt et al. 2002). One egg is laid per day, although often not always on successive days. Hatching is asynchronous and differential growth between the sexes can lead to differential mass among siblings, facilitating competition and fratricide (Bortollotti 1986). Sibling competition and mortality is greatest early in the nestling period, when size differences are greatest. The largest chick typically gets the majority of food in clutches with more than one chick. Brood reduction from starvation of the youngest chick may occur in broods of any size, unless food is abundant (Gerrard and Bortollotti 1988).

It is important to quantify, to the extent possible, the size and type of prey brought to the nest during all observation periods. These data may be useful for determining if the eaglet(s) is receiving adequate food and if construction may be interfering with food delivery schedules.

7. Fledging of the Eaglet(s)

Eaglets typically fledge at approximately 11 weeks of age in Florida (Wood 1992), but nest departure can occur at 8-14 weeks (Buehler 2000). The eaglets usually begin to move about the nest and branches of the nest tree at least 2 weeks before fledging, flapping and developing muscle strength, flight coordination and landing ability in preparation for their first flight from the nest tree. These eaglets are referred to as “branchers.” Fledging typically is considered to have occurred when the eaglets have begun to make extended flights from the nest to adjacent trees, have begun to soar and/or are seen flying around the territory with the parents. It is not uncommon for up to half of initial nest departures to be unsuccessful, with the eaglet falling to and remaining on the ground for days or weeks before regaining flight ability; in most cases, the parents will continue to feed these young (Kussman 1977, Fraser 1981). Successful fledging, for purposes of these Guidelines, is defined as the time at which the eaglet(s) has near fully developed primaries; is capable of strong, coordinated, independent flight; and would not glide to the ground if flushed.

Care must be taken to confirm that any premature fledging is, in fact, human related, since premature fledging is a common occurrence that may be independent of human activity.

D. Reporting Requirements

The **purpose of monitoring** bald eagles and eaglets at their nests under these Guidelines **is to minimize the occurrence of disturbance leading to nest abandonment and/or death of eggs or eaglets**, and avoid potential violations of the Endangered Species Act and the Bald and Golden Eagle Protection Act. As such, monitoring is a serious obligation. Falsification of monitoring reports can lead to criminal prosecution of both the Monitor and the company that is contracted to conduct the monitoring. The Monitor and their supervisor *must* sign and date each completed monitoring sheet (Figure 1) beneath the statement, which reads: "I have read and understand the

Bald Eagle Monitoring Guidelines. This report represents a true, accurate and representative description of the site conditions and eagle behavior at the time of monitoring".

As long as the Monitor has not detected any disturbances, irregularities or abnormalities as described above, then **Only** a summary report of monitoring results (See Figure 4) should be mailed via hardcopy or email to the appropriate Service Field Office and FWC (Endangered Species Coordinator, Tallahassee) on a monthly basis when the Monitor has not detected any disturbances, irregularities, or abnormalities as described above. Individual Bald Eagle Monitoring Data Sheets should be retained on file by the Monitor for reference, should such need occur. **A final report that summarizes monitoring results and the fate of any reproductive effort must be sent to the reviewing agencies within one month of the conclusion of monitoring**. The Monitor has the obligation to immediately report any suspension of work activities and/or any documented abnormal behavior, as defined in Section C above, to the developer/home builder and the Service and FWC**, and subsequently send the individual Bald Eagle Monitoring Data Sheets describing all relevant activities to all parties.** The Service and FWC will coordinate a review within a week of the reported behavior and circumstances associated with any suspension of work activities. A verbal determination followed by a written recommendation will be issued in a timely manner as to whether construction should resume or be modified, or if monitoring frequency should be increased.

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Bald Eagle Monitoring Data Report

Nest #: Start Time: Name of Monitor: ___________________________

Date: End Time: Name of Supervisor: ________________________

Tree Status[1]: Tree type[2]: # Adult Present: # Young Present:

Time	Behavioral activity observed (list all that apply):				
	Weather conditions	T:	W:	C:	P:
	Description of ongoing construction events:				
	Notes/Comments:				
Time	Behavioral activity observed (list all that apply):				
	Weather conditions	T:	W:	C:	P:
	Description of ongoing construction events:				
	Notes/Comments:				
Time	Behavioral activity observed (list all that apply):				
	Weather conditions	T:	W:	C:	P:
	Description of ongoing construction events:				
	Notes/Comments:				
Time	Behavioral activity observed (list all that apply):				
	Weather conditions	T:	W:	C:	P:
	Description of ongoing construction events:				
	Notes/Comments:				

Sworn Affidavit: I have read and understand the USFWS Bald Eagle Monitoring Guidelines. This report represents a true, accurate, and representative description of the site conditions and eagle behavior at the time of monitoring.

______________________ ______________________ _________________

Signature of Monitor Signature of Supervisor Date

Nest #: Monitoring Date: Monitor's signature: ___________________________

Supervisor's signature: ________________________

Time	Behavioral activity observed (list all that apply):				
	Weather conditions	T:	W:	C:	P:
	Description of ongoing construction events:				
	Notes/Comments:				
Time	Behavioral activity observed (list all that apply):				
	Weather conditions	T:	W:	C:	P:
	Description of ongoing construction events:				
	Notes/Comments:				
Time	Behavioral activity observed (list all that apply):				
	Weather conditions	T:	W:	C:	P:
	Description of ongoing construction events:				
	Notes/Comments:				
Time	Behavioral activity observed (list all that apply):				
	Weather conditions	T:	W:	C:	P:
	Description of ongoing construction events:				
	Notes/Comments:				

Sworn Affidavit: I have read and understand the USFWS Bald Eagle Monitoring Guidelines. This report represents a true, accurate, and representative description of the site conditions and eagle behavior at the time of monitoring.

_____________________ _____________________ ________________

Signature of Monitor Signature of Supervisor Date

Nest #: Monitoring Date: Monitor's signature: ___________________________

Supervisor's signature: ________________________

Time	Behavioral activity observed (list all that apply):				
	Weather conditions	T:	W:	C:	P:
	Description of ongoing construction events:				
	Notes/Comments:				
Time	Behavioral activity observed (list all that apply):				
	Weather conditions	T:	W:	C:	P:
	Description of ongoing construction events:				
	Notes/Comments:				
Time	Behavioral activity observed (list all that apply):				
	Weather conditions	T:	W:	C:	P:
	Description of ongoing construction events:				
	Notes/Comments:				
Time	Behavioral activity observed (list all that apply):				
	Weather conditions	T:	W:	C:	P:
	Description of ongoing construction events:				
	Notes/Comments:				

Sworn Affidavit: I have read and understand the USFWS Bald Eagle Monitoring Guidelines. This report represents a true, accurate, and representative description of the site conditions and eagle behavior at the time of monitoring.

_____________________ _____________________ ________________

Signature of Monitor Signature of Supervisor Date

Nest #: Monitoring Date:

Time	Behavioral activity observed (list all that apply):				
	Weather conditions	T:	W:	C:	P:
	Description of ongoing construction events:				
	Notes/Comments:				
Time	Behavioral activity observed (list all that apply):				
	Weather conditions	T:	W:	C:	P:
	Description of ongoing construction events:				
	Notes/Comments:				
Time	Behavioral activity observed (list all that apply):				
	Weather conditions	T:	W:	C:	P:
	Description of ongoing construction events:				
	Notes/Comments:				
Time	Behavioral activity observed (list all that apply):				
	Weather conditions	T:	W:	C:	P:
	Description of ongoing construction events:				
	Notes/Comments:				

Sworn Affidavit: I have read and understand the USFWS Bald Eagle Monitoring Guidelines. This report represents a true, accurate, and representative description of the site conditions and eagle behavior at the time of monitoring.

____________________ Signature of Monitor

____________________ Signature of Supervisor

________________ Date

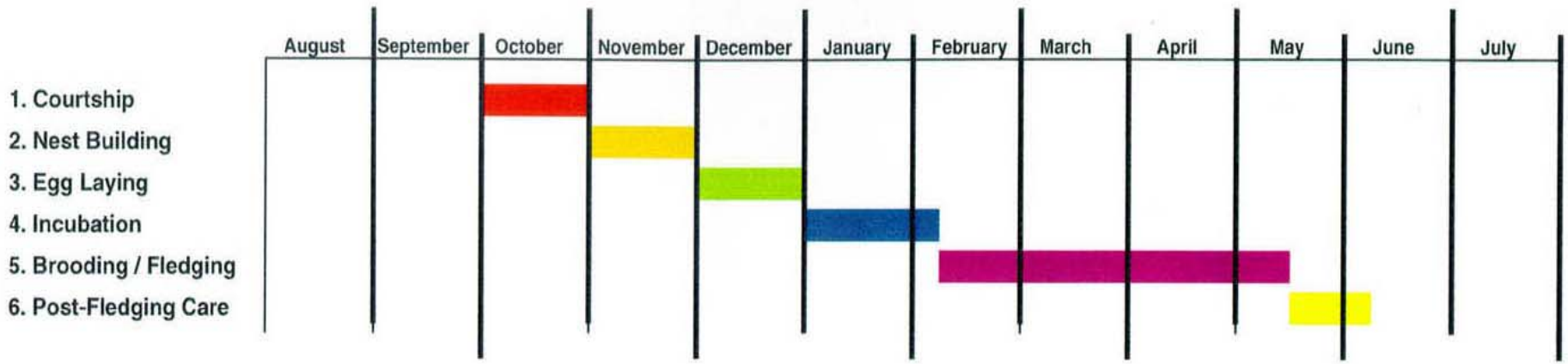
Instruction for completing the Bald Eagle Monitoring Data Report

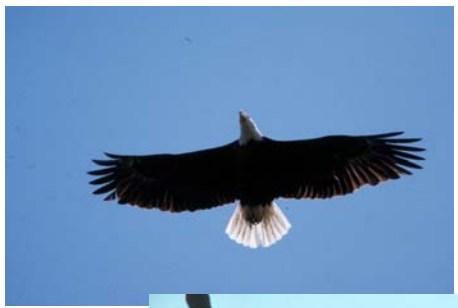
1. Insert the nest identification number, date for which the monitoring is occurring, Start time is the time at which monitoring is initiated, and end time is when the daily monitoring is completed. The monitor and the monitor's supervisor should print their name on the first page, a sign all other pages.
2. Tree Status is either L = live, D = dead, or A = artificial structure.
3. Tree type is either P = native pine, H = native hardwood, E = exotic.
4. All data reports should have an attached map of the nest territory that includes the location of the project. Major territory flights, including the time of the flight, should be drawn on this map.
5. Record all behavior events observed during the monitoring period. The following abbreviations should be used. CT = courtship; MAT = breeding/mating; NR = nest repair; INC = incubating; BRO = brooding; AF = adult feeding; YF = young being fed; TD = territory defense; STD/DV going from incubation to standing associated with distress calls; FL/DV = flushing with distress calls; DC = distress calls not associated with standing or flushing; PF = premature fledging. A monitoring event that observed nest repair, courtship and adult feeding may be recorded as NR-CT-AF. Any other behavior can be listed or described. Any abnormal behavior should be noted and described in the notes section if more space is required.
6. Enter the current weather conditions for each observation period in the appropriate place. On the data report, T = Temperature (EF); W = Wind speed & direction; C = Cloud Cover (%); P = Precipitation.
7. Record all ongoing construction/project activities that occur during the monitoring period. The following abbreviations should be used for common activities (unlisted activities should be described):
    - **FP** = fill placement,
    - **SP** = slab pouring,
    - **SC** = sidewall construction,
    - **TP** = truss placement,
    - **R** = roofing,
    - **EW** = external finish work,
    - **IW** = internal finish work;
    - **IFR** = infrastructure work;
    - **HE** = heavy equipment work;
    - **CRN** = work involving a crane.

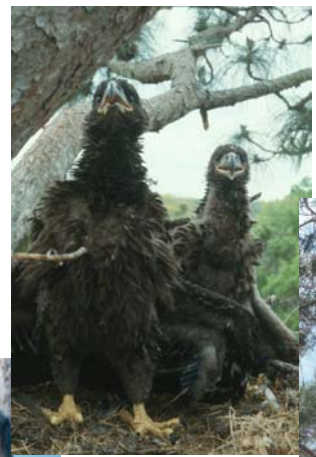
    Provide details on infrastructure and heavy equipment work.
8. Any information that needs further explanation or any unusual event should be record in the Notes/Comments section. If more space is required, a supplemental sheet can be attached to this monitoring report. This supplemental sheet should clearly indicate the nest involved, the date of the monitoring, the monitoring time period to which the comment belongs (especially if needed for more than one monitoring time period), and should be signed by the monitor and supervisor.
9. In the appropriate place at the top of page 1, record the number of adults present at the nest during the entire monitoring period.
10. In the appropriate place at the top of page 1, record the number of young present at the nest during the entire monitoring period.

Nesting Chronology of Bald Eagles in Florida (typical)

Figure 2







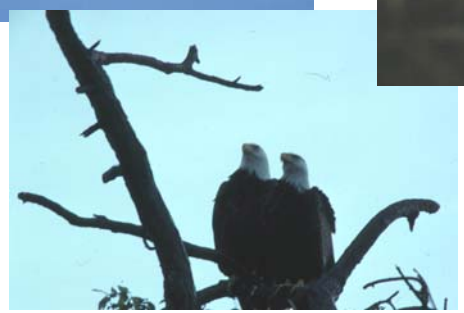
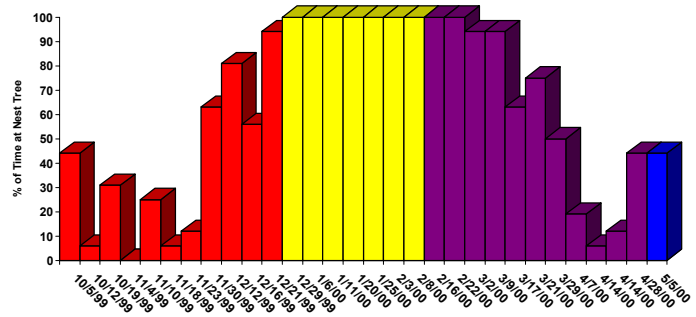


Figure 3: NEST ATTENDANCE BY AT LEAST ONE ADULT EAGLE DURING 15-MINUTE INCREMENTS OF 4-HOUR OBSERVATIONAL PERIODS

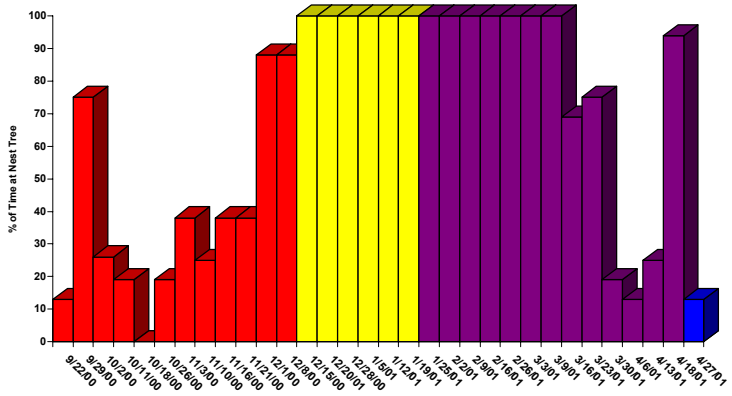
1999 - 2000 NESTING SEASON

	WITHIN 750' PRIMARY ZONE	WITHIN 1500' SECONDARY ZONE
EXISTING HOMES	0	8
HOMES UNDER CONSTRUCTION DURING NESTING SEASON	0	26



2000 - 2001 NESTING SEASON

	WITHIN 750' PRIMARY ZONE	WITHIN 1500' SECONDARY ZONE
EXISTING HOMES	0	34
HOMES UNDER CONSTRUCTION DURING NESTING SEASON	0	8



2001 - 2002 NESTING SEASON

	WITHIN 750' PRIMARY ZONE	WITHIN 1500' SECONDARY ZONE
EXISTING HOMES	0	42
HOMES UNDER CONSTRUCTION DURING NESTING SEASON	17	61

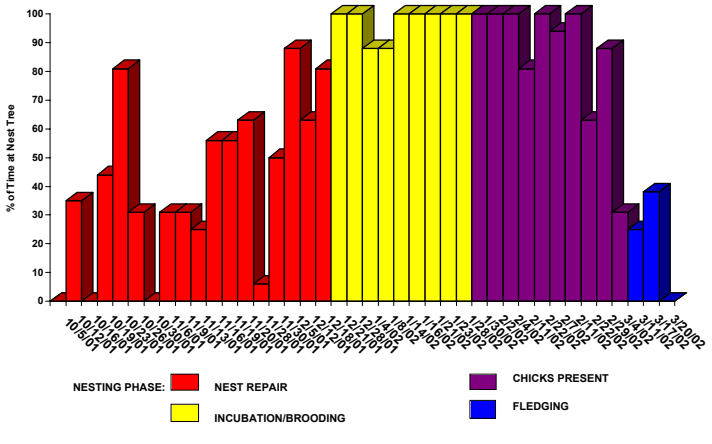


Figure 4

Please send monitoring reports by facsimile or e-mail to the appropriate USFWS Field Office and FWC (Endangered Species Coordinator, Tallahassee) on a monthly basis to:

U. S. Fish and Wildlife Service North Florida
Candace Martino
Tel: (904) 232-2580, ext. 129
Fax: (904) 232-2404
E-mail: candace_martino@fws.gov

U. S. Fish and Wildlife Service South Florida
Alfredo Begazo
Tel: (772) 562-3909 ext. 234
Fax: (772) 562-4288
E-mail: aflredo_begazo@fws.gov

U. S. Fish and Wildlife Service Florida Panhandle
Stan Simpkins
Tel: (850) 769-0552 ext. 234
Fax: (850) 763-2177
E-mail: stan_simpkins@fws.gov

Florida Fish and Wildlife Conservation Commission
Dan Sullivan
Tel: (850) 921-5990 ext. 17322
Fax: (850) 921-1847
E-mail: daniel.sullivan@myfwc.com